



Massachusetts Water Resources Authority

***MWRA Board of Directors***

***Public Forum on  
Long-Range Water Supply Planning***

**June 28, 2006**

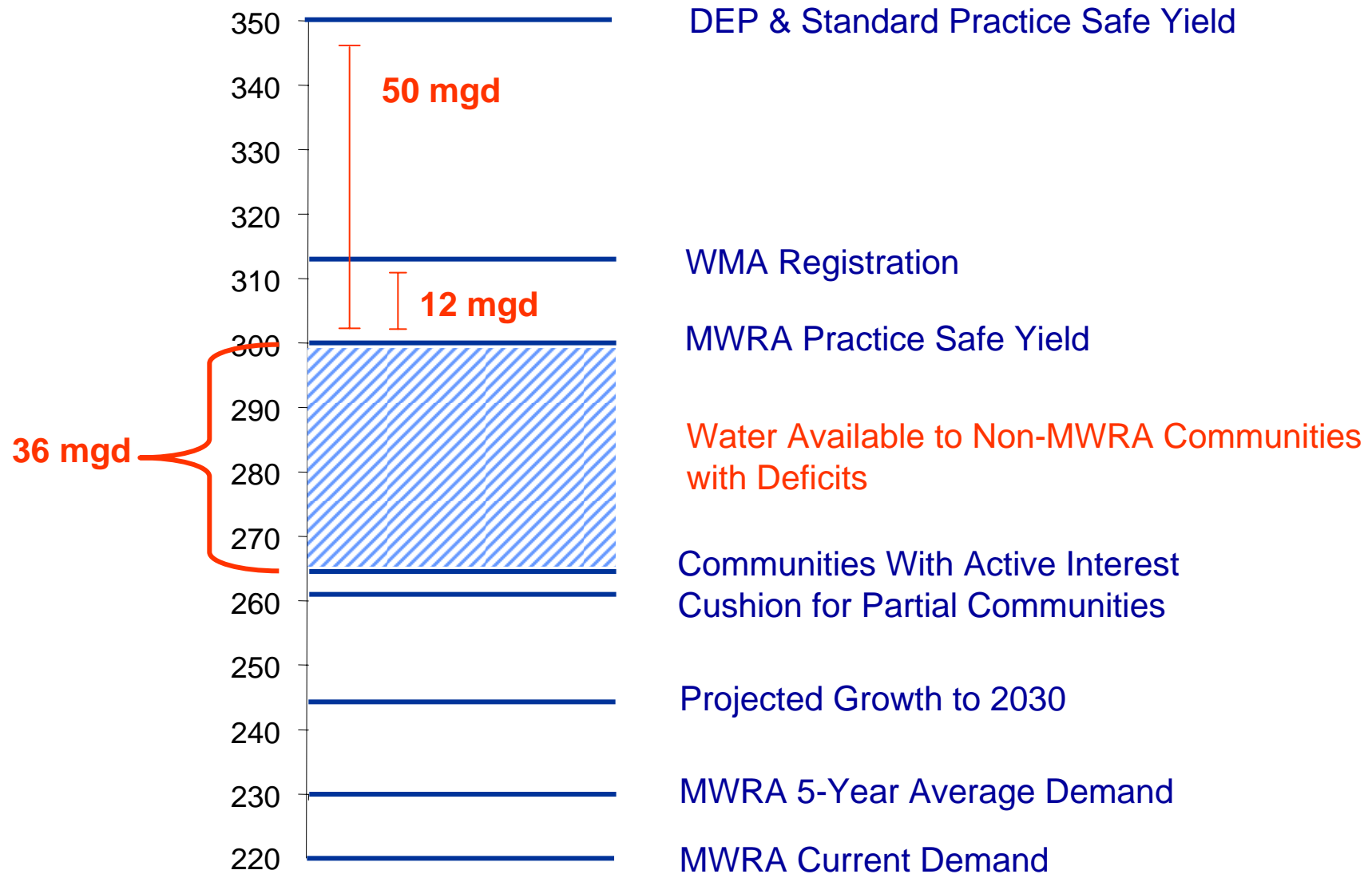


## Why Are We Here?

- Confluence of these dynamics:
  - MWRA has excess capacity because of conservation measures
  - MWRA's service area is surrounded by watersheds (or portions of watersheds) that are highly stressed
  - MWRA has a need for new sources of revenue as pressure on rates continues



## Conservatively, We Have 36 MGD Available





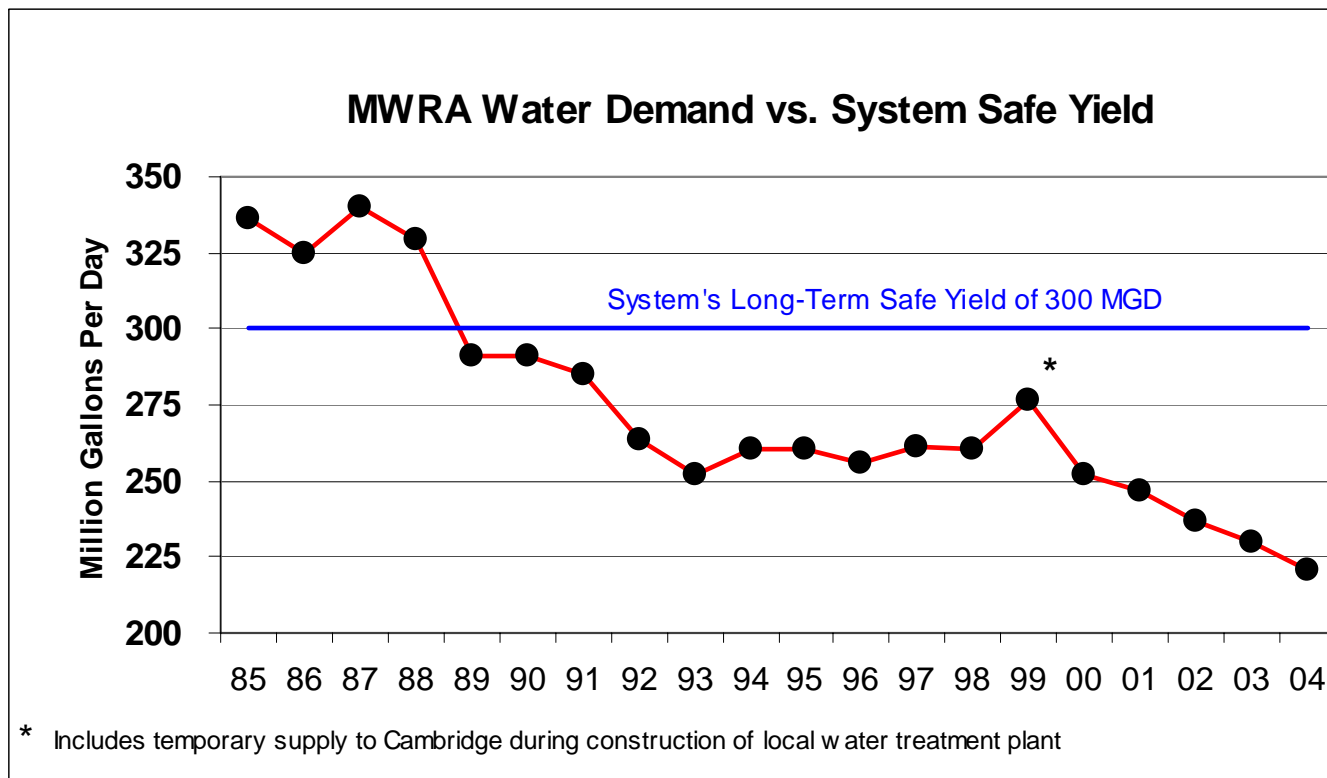
## “Safe Yield”

- DEP Safe Yield & Standard Engineering 355 mgd
- All Time Highest Usage 1980 342 mgd
- WSCAC 1984 318 mgd
- WMA Registration 312 mgd
- MWRA 300 mgd

*Net of 31 million gallons of required releases*

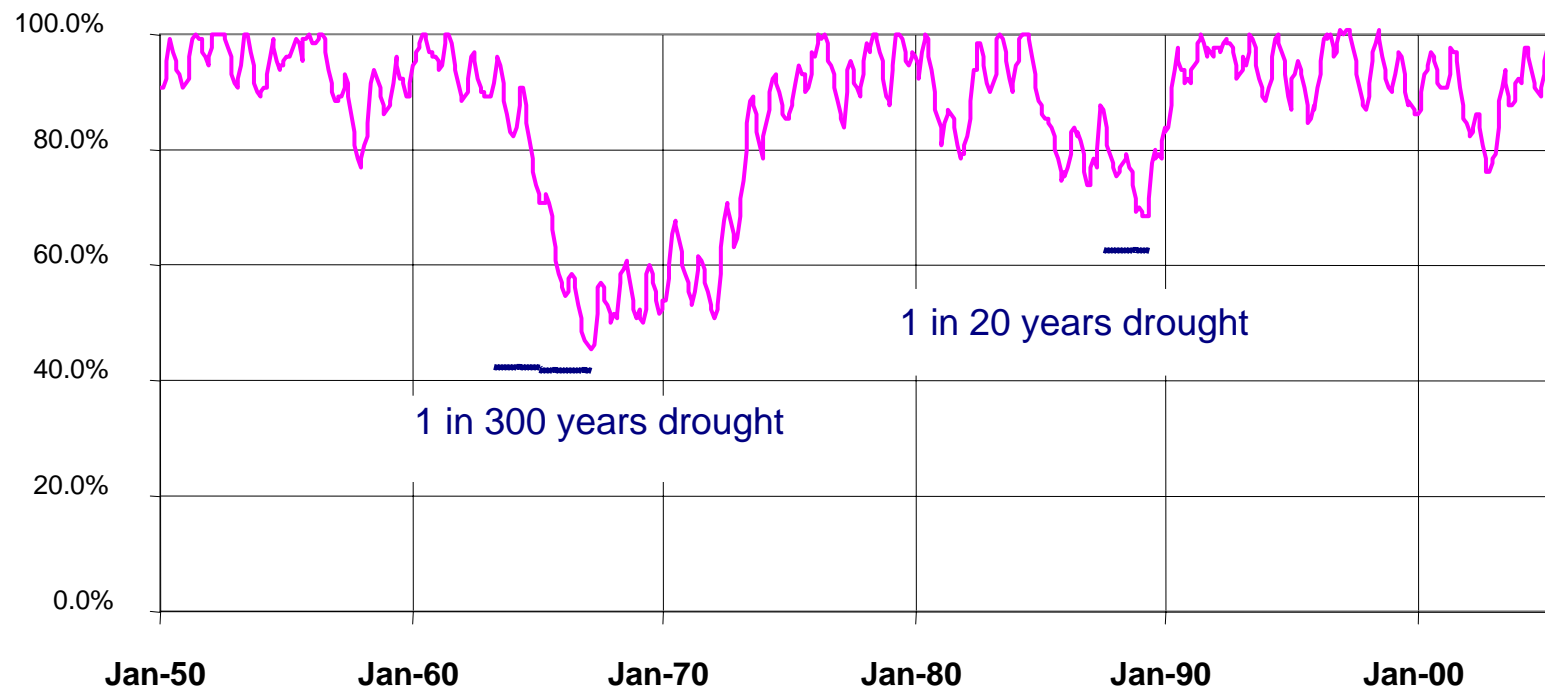


## MWRA Current Demand



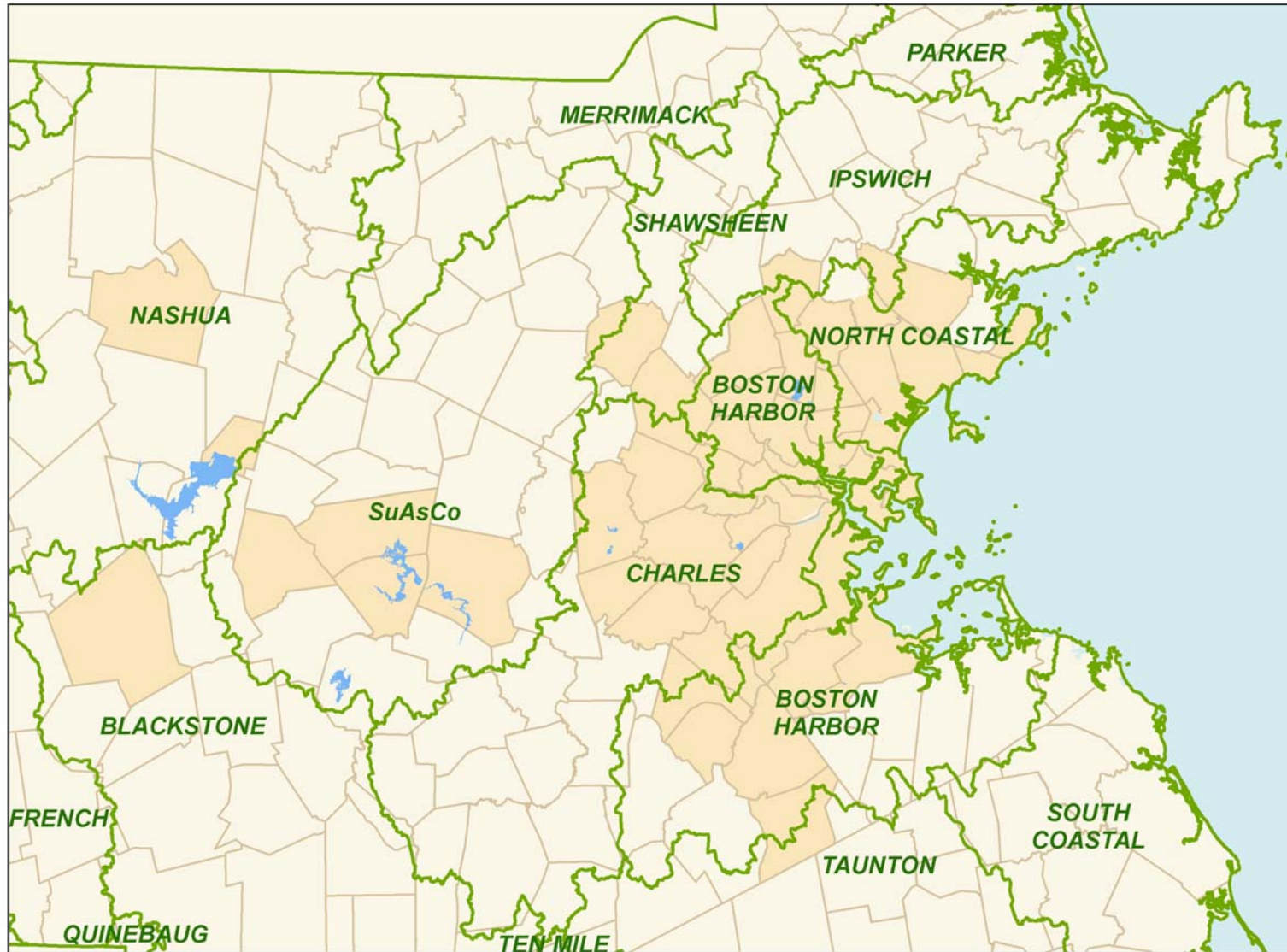


## Quabbin Reservoir Level (% Full)



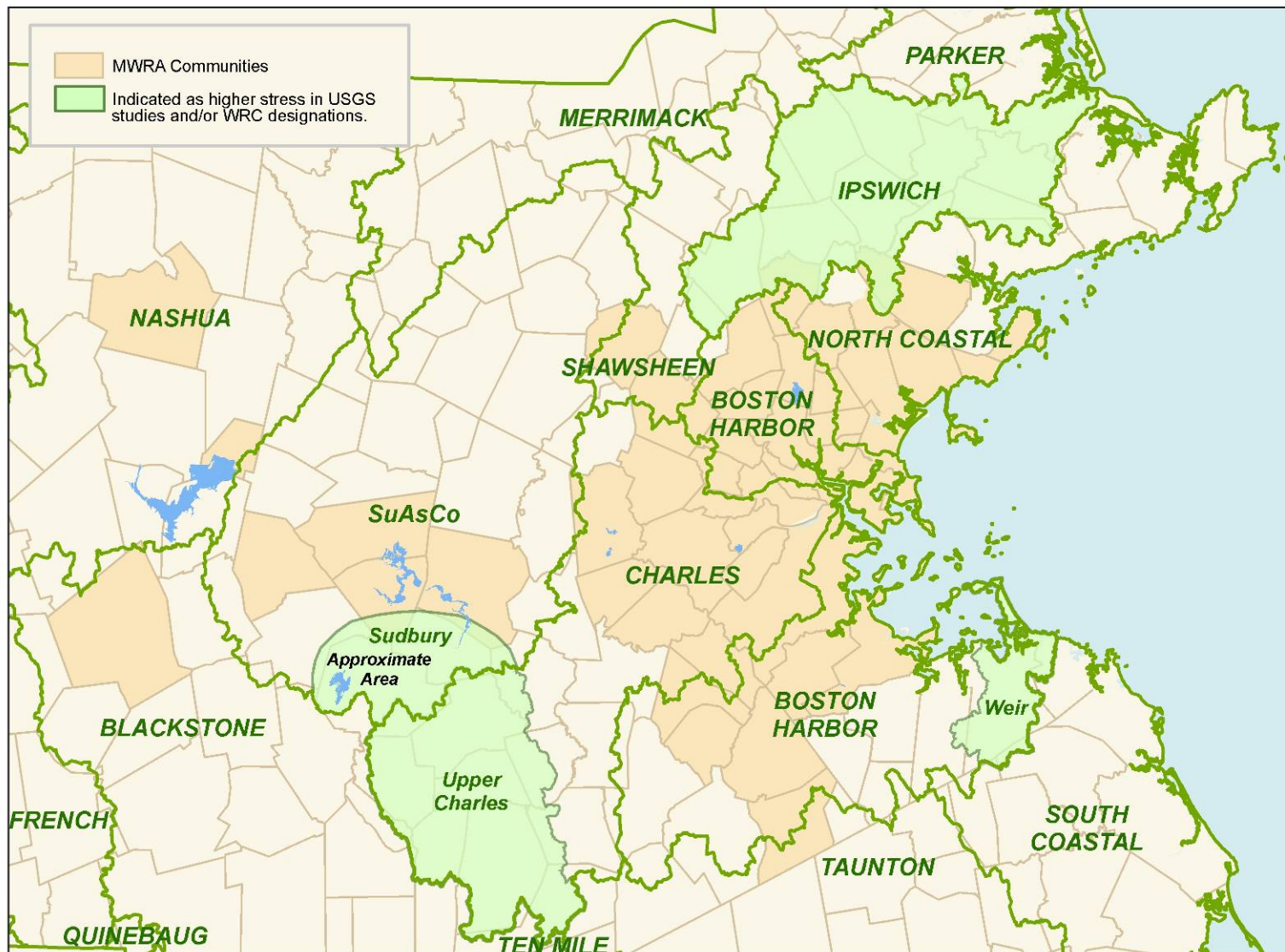


## MWRA Water Service Area and Basins



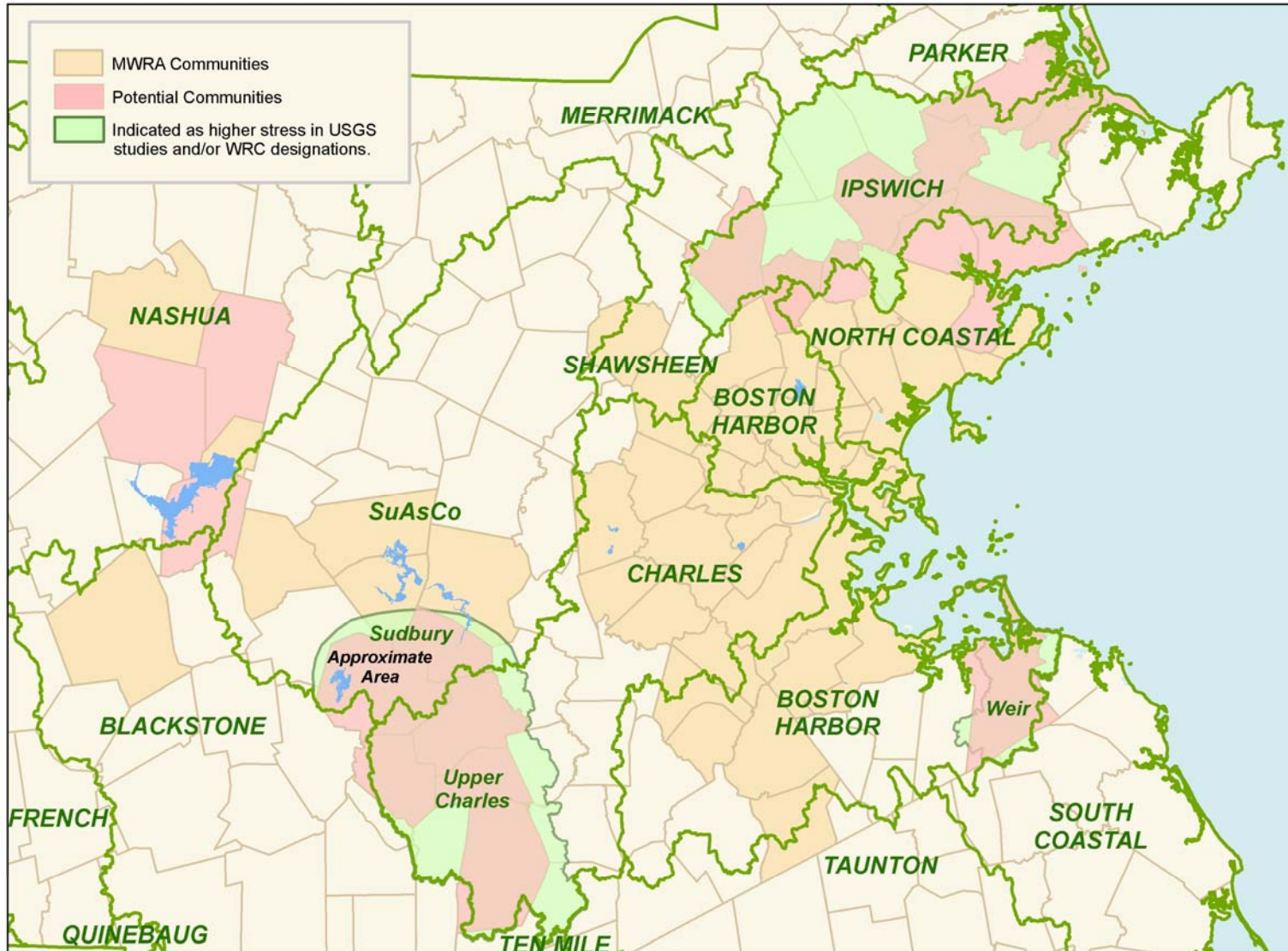


# MWRA Water Service Area and Stressed Areas





# MWRA Water Service Area and Potential System Expansion





## Environmental Aspects of System Expansion

***“By properly coordinating the use of surface and groundwater supplies, optimum regional water resource development seems most likely to be assured.”***

Source: Introduction to Hydrology, Warren Weissman

- MWRA’s proposition:
  - By properly coordinating use of MWRA’s multi-year reservoirs with groundwater withdrawals in stressed rivers (which often support high population densities), more optimum water resource planning can occur



## Environmental Benefits to Ipswich River

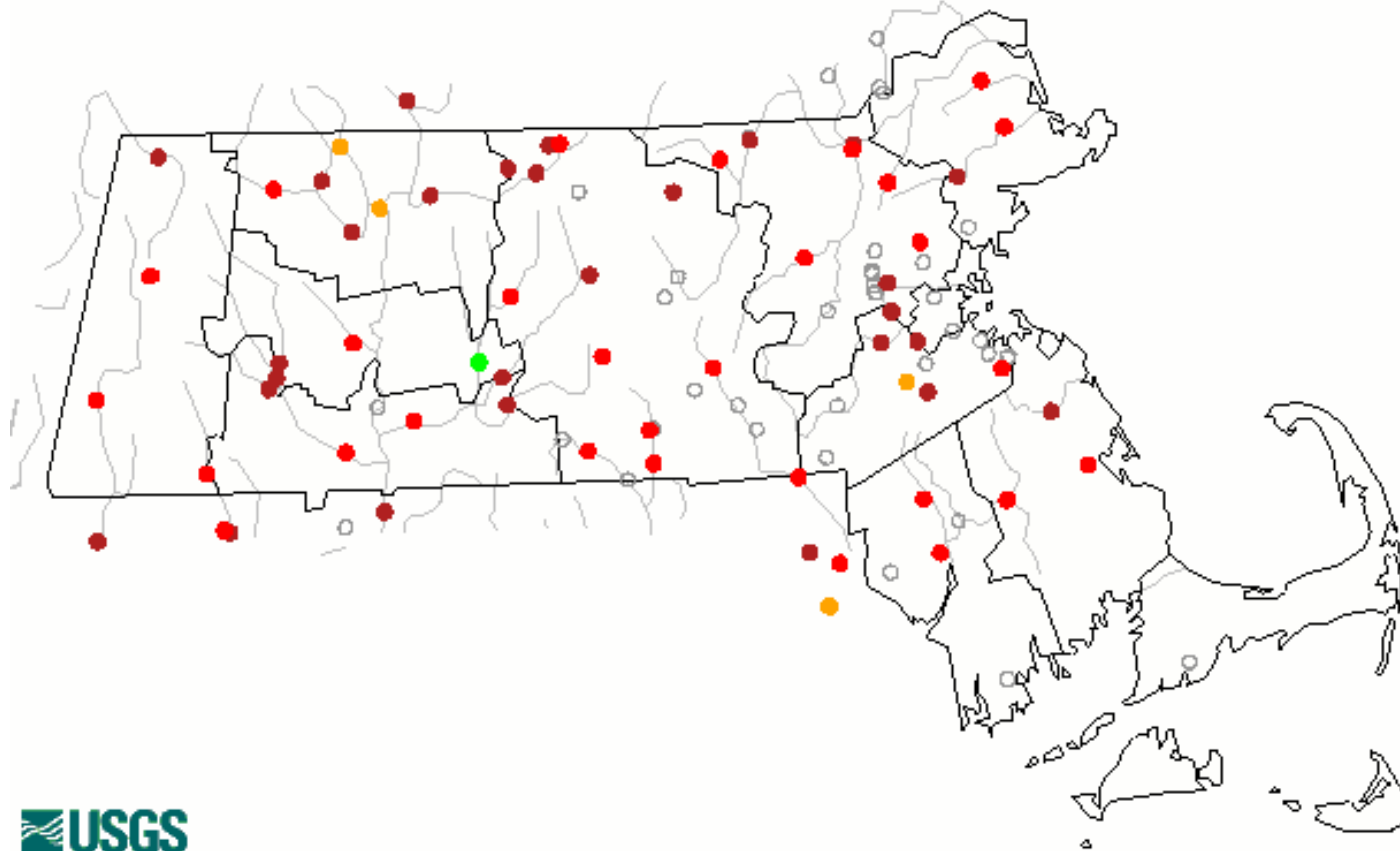
Simulated Flow at Mill Street				
Scenario	Average Annual Flow	Median Annual Flow	No Flow Frequency	
			Days	Years out of 35
1989-93 Actual Demand	28.3	19	1353	35
50% Reduction May - Oct	29.5	20.3	509	27
<b>Current Situation</b>	<b>30.3</b>	<b>21.1</b>	<b>121</b>	<b>14</b>
No pumping May - Oct	30.9	21.7	4	1
No Pumping	33.5	24.5	0	0

*Notes: All simulations by USGS except Current Situation. Current Situation by CDM using USGS model.*



## Quabbin Storage and Required Releases Means the Swift has Water

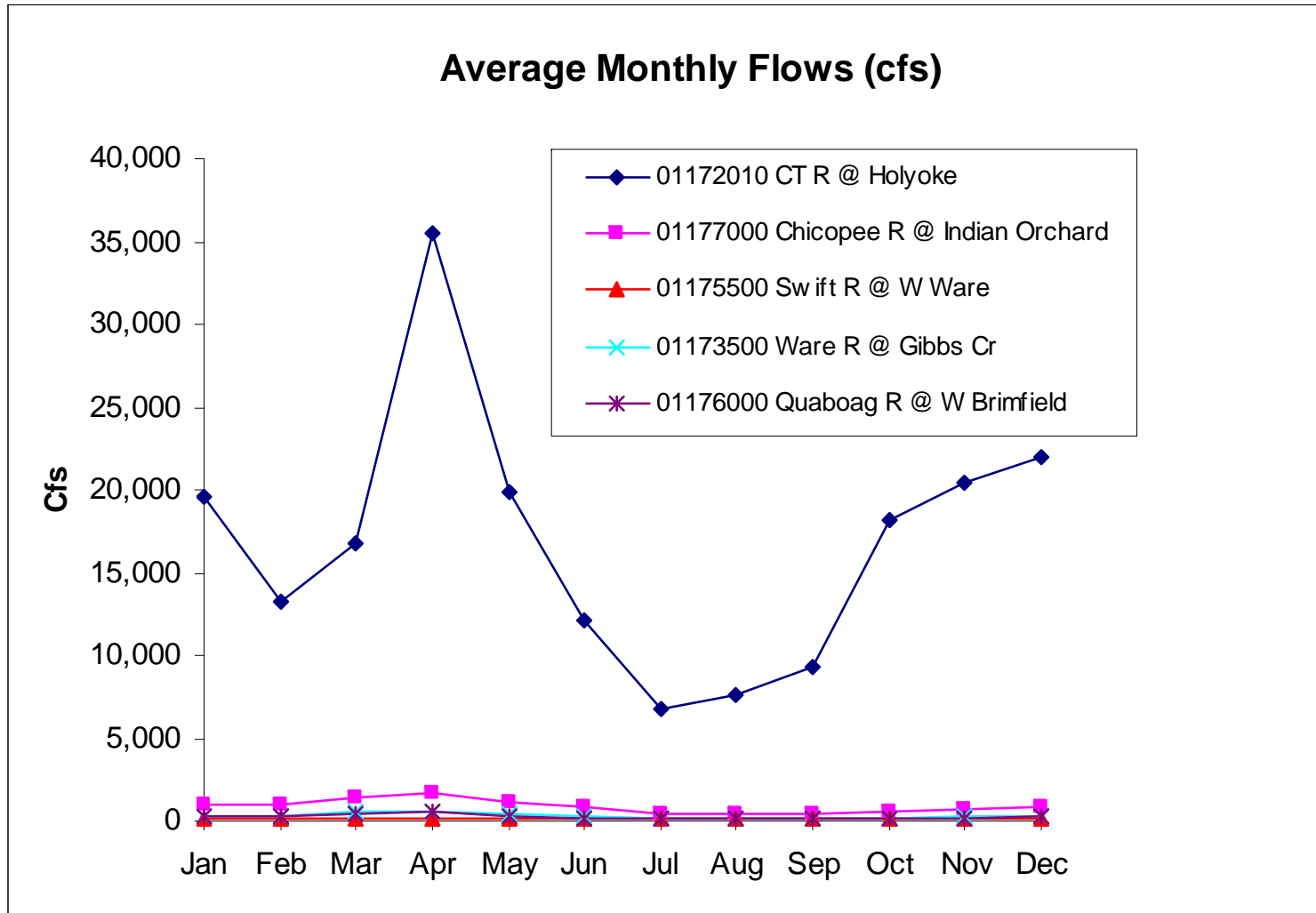
Thursday, March 30, 2006 09:20ET



Orange is below normal and Red is very low. Green is average flow.

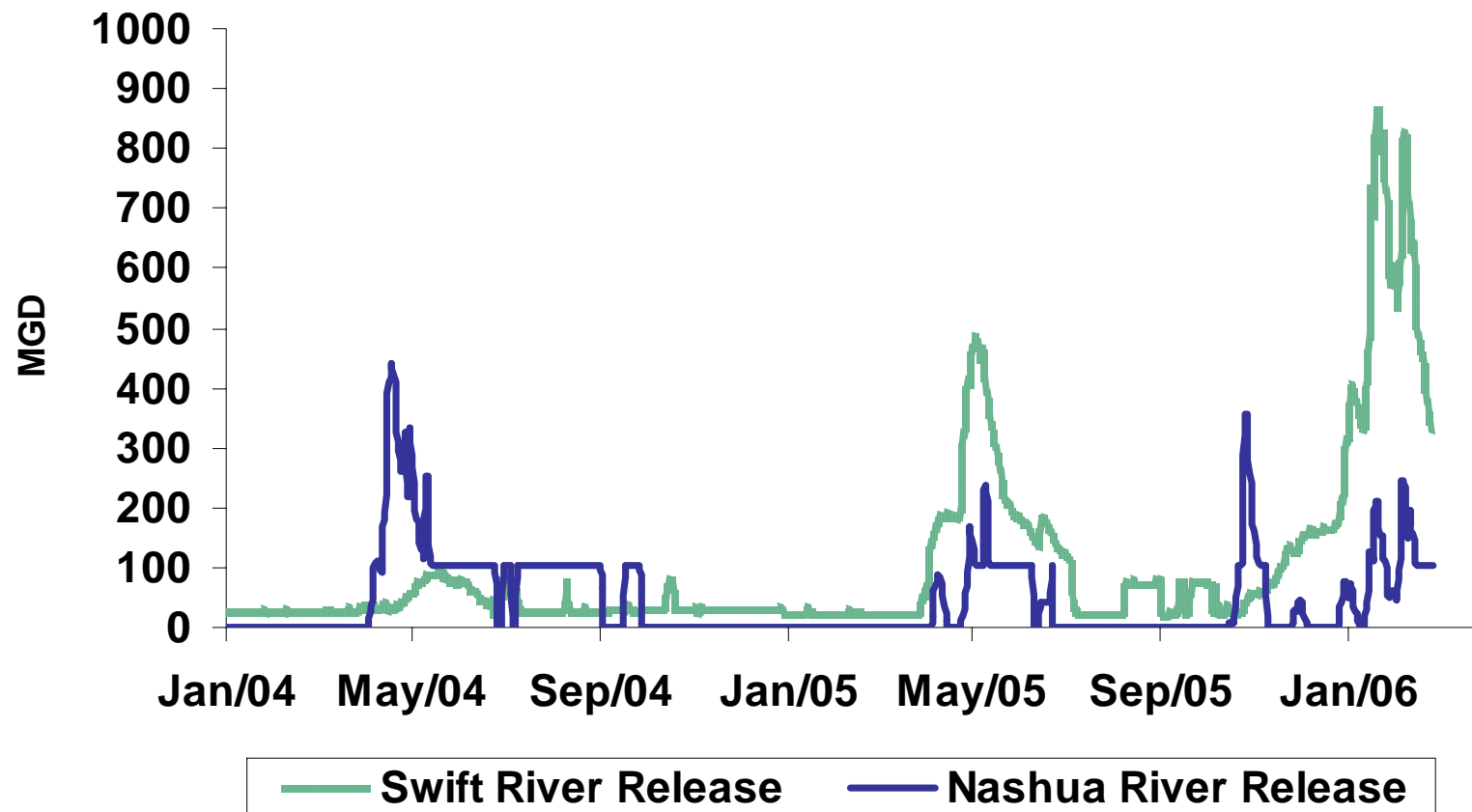


## Swift River Flow Contribution





## River Releases





## The Many Hurdles of Joining the System

- Prior to application to MWRA and the MWRA Advisory Board, a number of approvals must first be obtained, including:
  - Local Community
  - MEPA Review
  - Water Resources Commission Review under Interbasin Transfer Act
  - Legislature
  - Governor
  - MWRA Advisory Board
  - MWRA Board of Directors



*“Handled correctly, a modest expansion could achieve both environmental and smart-growth goals.”*

*“Both wildlife habitat and river recreation will benefit if the Ipswich and other stressed basins in Eastern Massachusetts get some relief.”*

A16 Editorial

SATURDAY, MAY 20, 2006

**The Boston Globe**  
Founded 1872

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**WATER WISDOM**

**T**HANKS TO conservation and the repair of leaky pipes, the Massachusetts Water Resources Authority has enough reserve capacity to invite more towns and cities to join the 48 it now supplies. Bringing in new members would be a financial plus for the MWRA and for homeowners, who would benefit from new customers sharing the system's fixed costs. But any substantial expansion of MWRA service should meet environmental and smart-growth standards.

The safe yield for the system's two reservoirs, Quabbin and Wachusett, is about 300 million gallons per day. Last year, demand averaged 225.28 million gallons. In the bad old days of the 1980s, the state was using 340 million gallons, above safe yield, and had to choose between the diversion of Connecticut River water into Quabbin or conservation.

Wisely, it chose the latter and brought down consumption. Since then improvements in the water-supply system and waste-water treatment have pushed up rates. Recently, the MWRA board, sensitive to the pressure of those rates, has made it clear that it is receptive to an expansion of the service area that would draw up to about 10 million additional gallons per day.

Handled correctly, a modest expansion could achieve both environmental and smart-growth goals. By relying at least partially on MWRA water, North Shore communities could depend less on wells that draw from the same groundwater sources as the usually depleted Ipswich River. Both wildlife habitat and river recreation will benefit if the Ipswich and other stressed river basins in Eastern Massachusetts get some relief.

But state officials should also use water to advance the sustainable development principles that underlie the state's smart-growth strategy. A strong preference should be established for granting MWRA membership to towns planning to steer growth toward transit centers or redevelopment of built-up areas, and away from the state's vanishing open space. "We endorse the principles of smart growth," said Fred Laskey, the MWRA executive director. "How to implement it has to be figured out."

MWRA has scheduled an open forum for late in June to allow groups like the Metropolitan Area Planning Council, representatives of the river watershed associations, environmental activists, and others to offer their views. The MWRA expansion proposal could be a catalyst for the formation of a long-overdue policy to ensure that water distribution is in line with transportation decision-making and housing development in curbing the sprawl that squanders the two most basic natural resources: water and land.

**DEMAND FOR MWRA WATER**  
Average daily demand in millions of gallons

Safe yield	1980s	2005
300	340	225

SOURCE: Massachusetts Water Resources Authority  
ED WIEDENER/GLOBE STAFF

